What is claimed is:

1. An end cap in combination with a paper tube, the combination comprising:

a paper tube having an inwardly extending flap at an open end; and

an end cap comprising:

a bottom wall having a peripheral edge;

a sidewall extending from the peripheral edge of the bottom wall; and

a channel provided in the sidewall for receiving and engaging the inwardly extending flap when the end cap is disposed in the open end of the paper tube.

2. The combination according to claim 1 wherein the end cap further comprises an annular flange that extends from the sidewall, the flange having an outer diameter that is larger than an inner diameter of the paper tube.

3. The combination according to claim 1 wherein the bottom wall of the end cap further comprises a projection for facilitating rotation of the end plug within the open end of the paper tube.

4. The combination according to claim 1 wherein:

the paper tube has two opposing inwardly extending flaps at the open end; and

the sidewall of the end cap is provided with two channels for receiving and engaging the two inwardly extending flaps when the end cap is disposed in the open end of the paper tube.

5. The combination according to claim 1 wherein:

the paper tube has three equally spaced inwardly extending flaps at the open end; and

the sidewall of the end cap is provided with three channels for receiving and engaging the three equally spaced inwardly extending flaps when the end cap is disposed in the open end of the paper tube.

6. The combination according to claim 1 wherein:

the paper tube has a plurality of inwardly extending flaps at the open end; and

the sidewall of the end cap is provided with a plurality of channels for receiving and engaging the plurality of inwardly extending flaps when the end cap is disposed in the open end of the paper tube.

7. The combination according to claim 1 wherein at least a portion of the sidewall proximal to the peripheral edge of the bottom wall circumferentially contacts an inner surface of the paper tube when the end cap is disposed in the open end of the paper tube.

8. A method of closing an open end of a paper tube comprising:

forming an inwardly extending flap at the open end of the paper tube;

providing an end cap comprising:

a bottom wall having a peripheral edge;

a sidewall extending from the peripheral edge of the bottom wall; and

a channel provided in the sidewall for receiving and engaging the inwardly extending flap;

inserting the end cap bottom wall first into the open end of the paper tube; and

rotating the end cap relative to the paper tube until the inwardly extending flap is received in and engaged by the channel.

9. The method according to claim 8 wherein the end cap further comprises an annular flange that extends from the sidewall, the flange having an outer diameter that is larger than an inner diameter of the paper tube.

10. The method according to claim 8 wherein the bottom wall of the end cap further comprises a projection for facilitating rotation of the end plug within the open end of the paper tube.

11. A method of closing an open end of a paper tube comprising:

providing an end cap comprising:

a bottom wall having a peripheral edge;

a sidewall extending from the peripheral edge of the bottom wall, the sidewall including a recessed area or opening for forming an inwardly extending flap at the open end of the paper tube when the end cap is disposed in the open end of the paper tube; and

a channel provided in the sidewall for receiving and engaging the inwardly extending flap;

inserting the end cap bottom wall first into the open end of the paper tube such that a portion of the sidewall proximal to the peripheral edge of the bottom wall circumferentially contacts an inner surface of the paper tube;

forming the inwardly extending flap; and

rotating the end cap relative to the paper tube until the inwardly extending flap is received in and engaged by the channel.

12. The method according to claim 11 wherein the end cap further comprises an annular flange that extends from the sidewall, the flange having an outer diameter that is larger than an inner diameter of the paper tube.

13. The method according to claim 11 wherein the bottom wall of the end cap further comprises a projection for facilitating rotation of the end plug within the open end of the paper tube.

14. An end cap for closing an open end of a paper tube, the end cap comprising:

a bottom wall having a peripheral edge;

a sidewall extending from the peripheral edge of the bottom wall; and

a channel provided in the sidewall for receiving and engaging an inwardly extending flap at the open end of the paper tube when the end cap is disposed in the open end of the paper tube.

15. The end cap according to claim 14 further comprising an annular flange that extends from the sidewall, the flange having an outer diameter that is larger than an inner diameter of the paper tube.

16. The end cap according to claim 14 further comprising a skirt that extends from the flange and contacts an outer surface of the paper tube proximal to the open end.

17. The end cap according to claim 14 wherein at least a portion of the channel has an arcuate contour.

18. A mailing tube comprising:

a paper tube having a plurality of inwardly extending flaps at a first end of the paper tube; and

a plastic end cap secured to the first end of the paper tube, the end cap comprising:

a bottom wall having a peripheral edge;

a sidewall extending from the peripheral edge of the bottom wall; and

a plurality of channels provided in the sidewall, the channels receiving and engaging the plurality of inwardly extending flaps.

19. The mailing tube according to claim 18 wherein at least a portion of the sidewall proximal to the peripheral edge of the bottom wall circumferentially contacts an inner surface of the paper tube.

20. The mailing tube according to claim 18 wherein the end cap further comprises an annular flange that extends from the sidewall, the flange having an outer diameter that is larger than an inner diameter of the paper tube.

21. An end cap in combination with a paper tube, the combination comprising:

a paper tube having an inwardly extending flap at an open end, the inwardly extending flap having an inner side facing an interior portion of the paper tube and an outer side facing away from the interior portion of the paper tube; and

an end cap comprising:

a bottom wall having a peripheral edge; and

a sidewall extending from the peripheral edge of the bottom wall;

wherein the end cap receives and engages both the inner side and the outer side of the inwardly extending flap when the end cap is disposed in the open end of the paper tube.

22. The combination according to claim 21 wherein the end cap is a unitary structure that comprises a hinged wing extending from a top portion of the sidewall that can be moved from a first position where the hinged wing does not contact the inwardly extending flap to a second position where at least a portion of the hinged wing engages and contacts the outer side of the inwardly extending flap.

23. A combination comprising:

a paper tube having an open end and a plurality of equally spaced inwardly extending flaps having an inner side that face an interior of the paper tube and an outer side that face away from the interior of the paper tube;

a first end cap piece comprising:

a bottom wall having a substantially circular peripheral edge;

a sidewall extending from the peripheral edge;

a plurality of equally spaced recessed areas or openings formed in the sidewall; and

a ledge formed at a base of each recessed area or opening; and

a second end cap piece having a plurality of tangs that are configured for snap-fit engagement in the plurality of recessed areas or openings in the first end cap piece;

wherein the inner side of the inwardly extending flaps contact the ledges and the outer side of the inwardly extending flaps contact the tangs.